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## Systematics review of low-lying positive parity structures in the 160 mass region.

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For decades now, the low-lying first excited  $0^+$  bands have been attributed to “ $\beta$  -vibrations”, following the seminal works of Bohr and Mottelson [1, 2]. Recent discoveries have demonstrated that these bands could arise due to other modes excitations, such as quadrupole pairing [3] and shape-coexistence [4].

The current work performs a systematics review of low-lying structures in the 160 mass region. In particular, this work focus on the structural behaviour of bands built on the first excited  $0^+$  and  $2^+$  bands, which are traditionally understood as  $\beta$  and  $\gamma$  bands, respectively. The results of the systematic review are presented and the implications of the findings are there from discussed.

### Reference

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- [5] P.E. Garrett, J Phys. G: Nucl. Part. Phys. 27, R1 (2001).

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